**SOFTWARE TESTING**

**DURATION- 7-8 MONTHS**

**Learn the Basics of Software Testing**

* What is Software Testing?
* Software Development Life Cycle (SDLC)
* Software Testing Life Cycle (STLC)
* Types of Testing: Manual vs Automation
* Testing Types: Functional, Non-functional, Unit, Integration, System, UAT, Regression, Smoke, Sanity, etc.
* Bug Lifecycle, Test Cases, Test Plan, Defect Reporting

**Basic Testing Tools (Manual)**

* Bug tracking: **Jira, Bugzilla, Mantis**
* Test case management: **TestLink, Zephyr**

**Manual Testing (Core Practice)**

**Learn Test Documentation**

* Test Plan
* Test Case & Test Scenario Writing
* Traceability Matrix
* Defect Report

**Learn How to Do:**

* Web application testing
* Mobile app testing
* Cross-browser testing
* Exploratory Testing

**Automation Testing (Beginner to Intermediate)**

**Programming Knowledge**

* **Choose one language**:
  + **Java** (most common in Selenium)
  + Python
  + JavaScript (for Cypress, Playwright)
* Learn basics:
  + OOPs, loops, conditionals
  + Exception handling, File handling

**Core Automation Tools**

* **Selenium WebDriver** (with Java or Python)
* TestNG or JUnit (Java)
* Page Object Model (POM)
* Locators (XPath, CSS Selectors)
* Selenium Grid, Parallel Execution

**Advanced Automation**

**Learn Framework Development**

* Maven/Gradle (Build Tools)
* Log4j (Logging)
* Apache POI / OpenCSV (Data-Driven Testing)
* Extent Reports or Allure (Reporting)
* Cucumber (BDD with Gherkin)
* Continuous Integration with **Jenkins**

**Version Control**

* Git + GitHub

**API Testing**

**Manual API Testing**

* Postman

**Automation**

* REST Assured (Java)
* HTTP Client (Python Requests)

**Performance Testing**

* **Tools**:
  + JMeter
  + Gatling
  + LoadRunner (Advanced)

**Database**

* SQL basics (Joins, Queries, CRUD)
* Tools: MySQL/Oracle/ PostgreSQL
* LEARN FROM BIIT INSTITUE WITH CERTIFICATE AND DIPLIMA